Fourth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons

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Problems related to the Nuclear Safety International Régime

Working Paper

The safety régime of nuclear activities in the field of civilian applications is carried out in two different stages:

- the definition of safety criteria and requirements whose meeting ensures the safe operation of plants (including the services of the fuel cycle);
- the whole set of activities and procedures aimed at verifying that the plants really comply with the recommended IAEA safety measures. The second stage covers the whole process of localization, design, construction, operation and dismantling of a plant.

These two stages always characterize all national contexts where nuclear programmes exist.

Today the safety régime basically relies on national initiatives which are already supplemented by many actions undertaken at international level.

A strengthening of the international safety régime could contribute to further increase these levels, thus standardizing the degree of safety reached in the different nations.

A strengthened international safety régime would also have the significant effect of enhancing the public confidence in the nuclear sector: in fact, the international dimension of the safety initiatives would be perceived as a further element of guarantee and credibility.

We can therefore wonder how to strengthen the international safety régime with particular reference to the two major phases above.

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As to the definition of rules and regulations, the NUSS system was created by the IAEA. This system consists in a set of Codes and Guides drawn up by all member States and subjected to a continuous process of adjustment to the evolution of the nuclear technology. This revision process should now particularly aim at defining more stringent safety objectives for a new generation of reactors having a high content of inherent and passive safety.

At present the NUSS rules and regulations are a theoretical reference point for the individual national rules and regulations. Obviously each country would be free to autonomously supplement these rules and regulations in the framework of their own competences - which cannot be delegated - and in compliance with the international treaties undersigned. But the safety criteria adopted should not be less stringent than those agreed at international level.

The application aspects basically involve the authorities responsible for their control and management at national level. The overall volume of activities is substantial and it is therefore impossible to transfer the whole activity to an international organization. The application procedures must therefore continue and basically develop mainly at national level.

However, we can envisage procedures of permanent verification at international level, aiming at assessing the adequacy of the activities carried out in the individual countries. These procedures could be entrusted to an international control unit designed to assess the quality of the safety régimes implemented in the individual countries.

To this end it would be necessary:

- to begin with the review - already started by IAEA - of the control procedures existing in the different countries by identifying possible shortcomings and rationalization needs;
- to bridge the possible gaps and encourage the harmonization of the procedures existing in the various countries, particularly aiming at rationalizing them;
- to operate mechanisms for the continuous verification of the quality of the national safety régimes basically relying on the implementation of adequate quality guarantee programme, possibly "tailored" to each individual country or group of countries;
- finally, to carry out verification and controls by IAEA according to the criteria of the OSART, RAPART, etc., missions. Said missions, however, should not be made only upon request of the countries concerned - as is

the case now - but also upon an autonomous decision of the Agency on a systematic basis or when particular events occur. We should also envisage the possibility of integrated missions on the safety of plants which - unlike the present ones - do not only address specific aspects of the safety of plants themselves.

The system of tests and verification we have briefly outlined could be the subject of a specific international agreement to be negotiated with the above-mentioned normative and enforcement tasks.

This international agreement could also envisage the reaching of specific regional agreements to which the most politically and economically integrated countries would adhere. Within the EEC such a task could be entrusted to Euratom which would act upon delegation of IAEA in the framework of a specific agreement, similar to that one reached for the safeguard controls.